It is neither necessary nor desirable to determine that one and only one use of a watershed shall dominate over all others. However, it is desirable that no one activity be allowed to destroy the very essence of the natural system, especially where the long-term costs to the public are unknown, and where the broader public has had little or no input into management decisions. The law of public trust suggests that legitimate needs for resources which *only* river systems can provide should take precedence over those needs which could be served by some other means. Where two uses are contemplated, one a trust and the other a nontrust use, the nontrust use should be allowed only to the degree that to do so is consistent with trust needs.

The following discussion of governmental and nongovernmental involvement in decision making and project implementation processes which affect rivers and streams illustrates just how diverse the various interested entities are and, as a corollary, how complicated the task of coordinating those entities may be. It should be noted that the nongovernmental list is not intended to be comprehensive but rather a sampling of the extent and breadth of such organizations. The number of nongovernmental organizations suggests that local interest in conserving and restoring rivers is increasing.

State Lands Commission Jurisdiction and Public Trust Responsibility

Introduction

The State of California owns and administers several different types of interests in rivers and streams within the state's borders by virtue of being the sovereign representative of the people. These rights are the property of the state, and the state's powers with respect to these property rights are similar in certain ways to the rights of private property owners, but are governed by the law of public trust. These rights are grounded in English common law, as interpreted and applied by the federal and state court systems of the United States. The state is the guardian of those rights which fall under the protection of the ancient "Public Trust Doctrine," which in England governed certain rights and responsibilities which were entrusted to the King. As a result, these rights and lands collectively often are referred to as "sovereign" rights, or "sovereign lands."

In California, sovereign rights and responsibilities of the state which are traditionally associated with real property ownership have been delegated to the State Lands Commission (SLC). The Public Trust Doctrine, as it affects these rights, is designed to protect the rights of the public to use watercourses for commerce, navigation, fisheries, recreation, open space, preservation of ecological units in

their natural state, and similar uses for which those lands are uniquely suited.

Types of Jurisdiction and Interest

Public Trust—Sovereign Fee Ownership

The state owns, as trustee for the public, the beds of *tidal* navigable rivers and streams up to Ordinary High Water Mark (under natural conditions, that elevation reached by the average of all high tides over an 18.6 year period). In the case of *nontidal* navigable rivers and streams, if the adjacent uplands have been conveyed into private ownership, the state in most circumstances holds sovereign title, in trust, up to the Ordinary Low Water Mark. (The term "ordinary" in each of the above statements is a legal term of art which refers to property boundaries, which may be sometimes, but not necessarily always, visible on the ground.) Where the state owns the fee interest in the underlying land, its ownership has some of the same characteristics of private property ownership, but is subject to the constraints of the public trust doctrine. For example, the state can and does require compensation to the public for any private use of its property, including both surface use and the extraction of resources from the land. However, the state does not have the unfettered right to alienate its trust property.

Public Trust—Easement

Along navigable nontidal waterways, the state also owns a right often termed the "public trust easement" in the area between Ordinary Low Water Mark and Ordinary High Water Mark. The state has both the right and the obligation to balance competing land uses in the easement area. In general, the title of a private owner of the fee underlying the state's easement is subservient to the easement, although the fee owner may use the lands in any way "not inconsistent with public trust needs." It should also be noted that in some instances the state has retained a fee interest in the area between the Ordinary Low Water Mark and Ordinary High Water Mark. A title search is generally needed to verify the status of the state's interests vis-a-vis those of the upland owner.

Navigation Rights

In California, members of the public have a right to utilize for boating, fishing and similar water dependent uses any waterway that is susceptible of being navigated by even the smallest recreational craft, where access to the waterway may be legally obtained. Under well established California law, this right to utilize such waterways

exists even where the bed is privately owned. Any member of the public, or the state acting on behalf of the public, may enjoin any interference with this right.

Right to Abate Nuisance

The state has a right (and, under trust law, an obligation) to seek to abate any nuisance activity, whether on public or private property, which can be demonstrated to have a deleterious effect upon the property, or the rights associated with the property, which is subject to the Public Trust Doctrine. Obstructions to navigation and the pollution of waterways are examples of types of nuisances that can be abated.

Access

The Act for the Admission of California to the Union, and the State Constitution, provide that protection of the public's right to use navigable waters is a paramount responsibility of state government. In addition, several statutory provisions exist (most notably, the Subdivision Map Act) which require that public access to and along waterways be provided. The public does *not*, however, have a right to cross private property to access public waterways unless there is a legally protected express or implied right to do so.

Legal Bases for Jurisdiction and Interest

Act for the Admission of California to the Union

Section 3 of the Admission Act provides, in part:

> . . . that all the navigable waters within the said State shall be common highways, and forever free, as well to the inhabitants of said State as to the citizens of the United States, without any tax, impost, or duty therefor.

California Constitution

The California Constitution, Article 10, Section 1, states:

> The right of eminent domain is hereby declared to exist in the State to all frontages on the navigable waters of this State.

Article 10, Section 4, provides:

> No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay,

> inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision, so that access to the navigable waters of this State shall always be attainable for the people thereof.

California Statutes

Division 6 (Public Lands) of the Public Resources Code (PRC), beginning with Section 6001, spells out the varied powers and responsibilities of the State Lands Commission, including those relating to management of rivers and streams. Some of the more important sections of the PRC are cited below.

PRC Section 6301 provides, in part:

> The commission has exclusive jurisdiction over all ungranted tidelands and submerged lands owned by the State, and of the beds of navigable rivers, streams, lakes, bays, estuaries, inlets, and straits, including tidelands and submerged lands or any interest therein, whether within or beyond the boundaries of the State as established by law, which have been or may be acquired by the State (a) by quitclaim, cession, grant, contract, or otherwise from the United States or any agency thereof, or (b) by any other means. All jurisdiction and authority remaining in the State as to tidelands and submerged lands as to which grants have been or may be made is vested in the commission.

PRC Section 6307 authorizes the commission, under limited circumstances, and upon making appropriate findings, to exchange lands, where to do so would result in a net benefit to the public trust.

PRC Section 6357 authorizes the commission to "... establish the ordinary high water mark or the ordinary low water mark of any ... tide, or submerged lands of this State, by agreement, arbitration, or action to quiet title, whenever it is deemed expedient or necessary."

Case Law

There are dozens of cases which deal with state jurisdiction over rivers and streams. There are also several appellate decisions, many of which involved the State Lands Commission as a party,

which explain the specifics of California's jurisdiction. Some of the more important decisions are listed at the end of this section.

Two important lines of cases have helped to define and refine the role of the state as public trustee for rivers and streams. One series of cases defines the scope of the trust and the duties of the trustee, while the other spells out the geographic extent and the navigation rights associated with that authority and responsibility.

In the first instance, the courts have held that the state, as trustee, is bound by a very stringent standard of conduct in its stewardship of trust resources. A recent example of this principle is the California Supreme Court's language in the *National Audubon* (33 Cal.3d 419 (1983)) decision which states that the state has "an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible." That language is the most clear statement to date that the state is not free to decide when and where it will apply the principles of the Public Trust Doctrine, but must actively seek to protect those properties and values which form the corpus of the trust. On the other hand, the state does have a great deal of discretion to balance, and to choose between, conflicting uses which are themselves consistent with the principles of the doctrine. For example, the state may authorize construction of a port facility even though an effect of that construction may be to prevent fishing within the port boundaries (of course, separate environmental legislation such as CEQA places additional constraints upon state action).

The Public Trust Doctrine seems to be at least as much a *limitation* on the powers of government as it is specific direction to act. It is clear from a reading of cases beginning with *Illinois Central* (146 U.S. 387 (1892)) and extending through *Audubon* (supra) that the Public Trust Doctrine will be invoked by the courts to tell a state government when and where it has gone too far in ignoring its trust responsibilities.

The cases which describe the geographic limits of trust jurisdiction and the public rights that go with the public trust have also been reaffirmed over time, as increasing pressure on river resources has created conflict between prospective users, and between natural systems and users. When population distributions were largely sparse and rural, and travel was more difficult, there was not much competition for use of river resources (with the exception of the water itself). There were seldom conflicts over access or over potential destruction of natural systems, and therefore no need for detailed analyses of jurisdictional limits. However, as population density and urban development increased, and people became more sophisticated and aware of the degradation of their natural surroundings and the impacts of that degradation on the quality of life, increasing and more strident conflict arose. As a consequence, disputes over ownership and jurisdiction over rivers became more frequent. The courts are

today being asked to resolve conflicts between citizens who want access to and along streams which may have been used by members of the public for generations, but which are now closed off by owners of upland property.

The courts, as a general rule and in keeping with the spirit of the Public Trust Doctrine, have always been protective of the public's right to access to waterways. Courts have carefully examined the elements of navigability which determine state ownership of title to the bed of a river, taking notice of surrounding circumstances and expectations. A careful reading of the decisions leads to the conclusion that the decisions have become increasingly detailed, in order to provide guidance to both public and private parties. The newer decisions provide extensive detail about what constitutes the sort of "commerce" that would support state ownership, or about what circumstances would indicate that a waterway was *susceptible* of supporting commercial navigation.

Management Trends

System Management

The State Lands Commission and its staff have become increasingly concerned and alarmed by the declining state of California's river and stream resources, as demonstrated in this report. At the same time, the commission and the staff have become more sophisticated in their understanding of the bioregional and system wide effects of past uncoordinated management practices. It is clear that the state, as trustee, can no longer allow to continue those patterns of uncoordinated activities which collectively threaten the very health of the system itself. The commission is particularly concerned about land management activities which, while they may occur outside the boundaries of state ownership jurisdiction, nonetheless can be demonstrated to have substantial negative effects on river systems as a whole, and consequently on the commission's jurisdiction. As a result, the commission has initiated a public education program through a series of status and trends reports on the public trust resources; programs to coordinate protection and restoration of riverine ecological systems such as the statewide greenway projects; and collaboration with federal, state and local agencies to support approaches for long-term resource management and planning activities. This report is intended to provide background and guidance to this system management approach.

Collaborative Planning

The commission seeks to enlist the support of all interested individuals and organizations to carry out its public trust responsibility to ensure the future health and welfare of California's river resources. The SLC also seeks to engage in collaborative planning with public and private entities to ensure that all feasible alternative management policies and practices are considered, that Best Management Practices are adopted for the management of river systems, and that continuous monitoring and evaluation mechanisms are in place. Recent developments, such as the Central Valley Project Improvement Act of 1992 (the Miller-Bradley Act) and the creation of the national Biological Survey (United States Department of Interior, Office of the Secretary, Memorandum March 17, 1993), will affect not only the State Lands Commission, but all of the myriad agencies and private groups with an interest in the ecological health and well-being of rivers and streams.

Water Marketing

Water marketing is an old concept, now being defined in new ways, that will have far-reaching impacts on how public and private entities manage and interact with river and stream resources. The Central Valley Project Improvement Act will lead to water marketing as a way of allocating scarce water resources among competing users. Holders of water rights will be able to (more or less) freely transfer those rights to entities willing and able to pay a market price for use of those rights. It is probable, for example, that the Metropolitan Water District of Southern California will purchase water rights now utilized to farm marginal lands in the Sacramento-San Joaquin River Valley, taking the marginal lands out of production. The water would be transferred to Southern California, largely for domestic and industrial use.

A provision of the Central Valley Project Improvement Act that is critical to the health of river systems provides express protection for various instream uses of water, even when that protection must be at the expense of other beneficial uses of the water. Agricultural and domestic users of water are required by the legislation to share equally in the burdens of water shortages, rather than allocating a disproportionate share of the pain of such shortages to instream uses.

Other Jurisdictions

The role of the State Lands Commission in managing river resources is discussed above. The following additional governmental and nongovernmental organizations each are involved in managing some river-related resource:

The Federal Role

Department of Agriculture

United States Forest Service (USFS)

The USFS manages approximately 20 million acres of National Forest lands, or about 20 percent of the land in California. By law, National Forest resources are managed for many uses including water supply and watershed protection, timber, range, fishery and wildlife habitat, and recreation. About 50 percent of the water supply in California originates in watersheds within National Forests, and the headwaters of most rivers and streams are found in National Forests. Approximately 1,000 miles of federally designated Wild and Scenic Rivers originate or pass through one or more National Forests.

Management of the riparian and aquatic resources in the National Forests is guided by Standards and Guidelines found in individual Forest Land and Resource Management Plans, as well as national environmental legislation such as the Clean Water Act, the Clean Air Act, and the Endangered Species Act. All National Forests in the Pacific Southwest Region of the USFS are staffed with specialists including hydrologists, fisheries biologists and wildlife biologists to guide the interpretation and implementation of these regulations. All National Forests utilize a special management designation for riparian areas (Streamside Management Zone), and land management activities that affect the riparian area may be modified or curtailed when impacts to riparian resources are anticipated. A portion of the Forest Service budget is directed specifically at restoration of riparian areas.

In many inland areas where underlying land titles have not been settled by litigation or agreement, USFS asserts exclusive control over rivers and streams passing through National Forest land, and thus controls river activities such as camping, boating, off-highway vehicle uses, and access for fishing, hunting, boating and bathing. In addition, USFS has recently begun asserting federal reserved water rights for the benefit of instream, nonconsumptive uses.

In fiscal year 1991, 1.3 billion board feet of timber were harvested from California's National Forests. Private firms do the cutting under contract with the Forest Service, and receipts (totaling $169 million for California in fiscal year 1991) are turned over to the U.S. Treasury.

The service supervises livestock grazing, which is allowed on a fee basis on certain National Forest lands. Wildlife management on the forests is conducted in cooperation with the California Department of Fish and Game.

An important use of the National Forests is recreation: there are some 1,100 developed camp and picnic sites, among other uses;

and there are about 14,000 miles of mapped trails. Some 3.9 million acres have been set aside as Wilderness under the Wilderness Act of 1964.

U.S. Soil Conservation Service (SCS)

SCS provides guidance in the conservation and sustainable use of California's nonfederal lands through Resource Conservation Districts. Technical assistance is provided to individuals, cities and counties in the inventory, planning and installation of natural resource conservation measures. The assistance also includes soil, water and other resource inventories, and the development of appropriate Best Management Practices to protect the quality and/or the quantity of soil, water, air, vegetation and wildlife resources.

The several programs of the SCS affect, or have the potential to affect, riparian systems. For example, the SCS is participating with other agencies in the development of livestock management systems in riparian zones.

SCS also administers the Water Bank Program, with assistance from the Agricultural Stabilization and Conservation Service and other agencies. The objectives of the program are to preserve, restore and improve habitat in important migratory waterfowl nesting and breeding areas and to benefit other wildlife resources. Landowners with eligible wetlands may enter into agreements to receive annual payments for conserving land as wetlands.

As another example, SCS participates in the implementation of Farm Bills enacted in 1985 and 1990 with the objective to retire farm lands that have identified soil and water problems. Landowners with eligible lands may enter into agreements to receive annual payments.

Department of Commerce

National Oceanic and Atmospheric Administration (NOAA)

NOAA is the federal government's primary source of data and information on problems of the ocean and the atmosphere.

NOAA's activities include providing information on resources of river estuaries; performing assessments, research and synthesis/prediction; monitoring ambient levels of pollutants in the sediment and water column; and researching the effects of pollution on estuary habitats, organisms and subsequently, human health.

NOAA administers the Coastal Zone Management Act (amended 1990) the purposes of which are to enhance the effectiveness of the CZMA of 1972 by increasing understanding of the coastal environment and expanding the ability of state coastal zone management programs to address coastal environmental problems; and controlling land use activities which result in nonpoint

pollution of coastal waters, and which anticipate sea level rise. It also provides a procedure for state inland coastal boundaries to be modified to extent necessary to control the land and water uses that have a significant impact on coastal waters of the state.

Federally funded projects and projects on federal lands must be consistent with the State Coastal Zone Management Program; Section 404 (Clean Water Act) permit actions must also be consistent with the CZMA programs.

NOAA administers the National Estuarine Research Reserve System (NERRS) which provides estuarine site acquisition for research and education.

National Marine Fisheries Service (NMFS)

NMFS's mission is to conserve, manage and develop living marine resources and to promote the continued utilization of these resources for the nation's benefit. Although NMFS jurisdiction and management activities are primarily confined to the coastal zone and its network of estuaries, the agency also is an advocate of measures to protect the health of anadromous species such as salmon. NMFS, together with eight Regional Fishery Management Councils and the coastal states, manages U.S. fisheries under the authority of the Magnuson Fishery Conservation and Management Act, the Fish and Wildlife Coordination Act, and many other federal statutes. Together with the states and the U.S. Coast Guard, NMFS also operates a stringent program to enforce fisheries and protected species laws.

Each NMFS Regional Office is served by a Science and Research Center that conducts the studies necessary to support management decisions. Research that contributes to this important work is conducted at the 24 NMFS laboratories which collect fisheries statistics, perform resource and environmental surveys, study the biology and population structures of marine species, analyze the ecosystems that control the abundance and distribution of living marine resources, and investigate contaminants of the nation's seafood supply.

NMFS serves as a caretaker for many marine species protected under the Endangered Species Act, including (increasingly) stocks of Pacific salmon, which have declined in abundance so much that their future existence is now in jeopardy. NMFS works to recover these depleted resources, protecting species from activities that threaten their safety and critical habitat.

Magnuson Fishery Conservation and Management Act of 1956: The Act governs fishing in all U.S. waters throughout the U.S. Exclusive Economic Zone. The purpose of the act is to promote conservation and sound management of commercial fishing resources. The act covers all species of marine animals and plants, including anadromous species, except for marine mammals, birds and highly migratory species of tuna.

Pacific Fishery Management Council

This regional council, authorized by the Magnuson Fishery Conservation and Management Act, makes recommendations for regulation to the Secretary of Commerce; these recommendations are usually adopted with little or no change. The council does not supersede the authority of the California Department of Fish and Game in California waters.

The council is distinguished from the Pacific Marine Fisheries Commission. The commission is an interstate body created in 1947 by interstate compact between California, Oregon and Washington. Its purpose is to promote the better utilization of fisheries and to develop a joint program of protection and prevention of physical waste of fisheries. The commission's authority rests on the states' jurisdiction, rather than the federal government. The commission's actions complement those of the council by dealing with subjects outside the boundary of federal authority.

Department of Defense

United States Army Corps of Engineers (Corps)

The Corps' mission is to develop, control, maintain and conserve the nation's waterways and wetlands. The Corps is the principal federal agency involved in the regulation of wetlands, although, under recent legislation more clearly defining the process, EPA has oversight responsibilities.

The Corps carries on an extensive Civil Works (water resources development) program, including the planning, design, construction and operation of flood control and navigation projects, levee systems and shoreline erosion control works. Much of Corps work with respect to inland waterways during the past half century has been engineered flood control facilities and the creation and maintenance of navigable shipping channels. Until recently, engineered flood control improvements usually consisted of straightened and armored bank channels, the removal of riparian vegetation, leveeing, the construction of bypass facilities to handle peak flows, and similar facilities. The impacts of such measures on the health of natural systems is discussed elsewhere in this report.

The Corps regulates a permit program for structures and operations in navigable waters under Section 10 of the Rivers and Harbor Act of 1899, which essentially deals with any activity which would restrict navigation. Under Section 404 of the Clean Water Act of 1974, the Corps regulates the placement of fill in all waters and wetlands of the United States.

Department of Energy

Federal Energy Regulatory Commission (FERC)

FERC is the licensing entity for hydroelectric projects on inland waterways and its jurisdiction over such projects has been held by the courts to be preemptive of state jurisdiction for many purposes. FERC operates under the authority of the Federal Power Act, amended by the Electric Consumers Protection Act of 1986. It is required to give equal consideration to and balance, in the public interest, all uses of the waterway on which a project is located. When FERC reviews competing interests, the environment, recreation, fish and wildlife and other nondevelopmental values are to be equally considered with power and other developmental values. FERC independently weighs the economic and environmental trade-offs of the various developmental and nondevelopmental uses of the waterway when determining whether, and under what conditions, it licenses or relicenses a hydropower facility. Its analysis includes consideration of the recommendations of federal and state natural resource agencies.

The nature and extent of FERC jurisdiction has been a source of contention between FERC and natural resource agencies in California and other states.

Department of Health and Human Services

Food and Drug Administration (FDA)

FDA sets and enforces allowable levels of toxics in food, controls fish catches transported between states and monitors catches in federal waters.

Department of the Interior

Bureau of Land Management (BLM)

BLM manages California's "public domain." In this context, public domain includes all of the unsold federal lands within the state which are not withdrawn or reserved for some other federal purpose, e.g., Department of Defense, National Forests, National Parks and Monuments, Strategic Petroleum Reserve, Water Project, etc. BLM is mandated by the 1976 Federal Land Policy & Management Act to manage public lands for multiple uses, including recreation, wilderness, animal and plant species, grazing, mining and alternative energy. While the majority of BLM lands are located in the southern California deserts, public lands exist throughout the

state. Much of BLM's jurisdictional area encompasses rivers and streams with very substantial recreational and ecological value.

BLM manages the riparian areas along those streams which flow through its jurisdictional area as part of its mandate to provide for multiple use of its resources. Impacts from past practices have been discussed elsewhere in this report. Although current efforts include concerns about riparian areas, a comprehensive management program is not available. For example, BLM has developed specific management plans for Upper Cache Creek as it flows from Clear Lake toward the Capay Valley, and for the Sacramento River south of Red Bluff. Those plans incorporate recreation and the preservation of wildlife habitat. BLM recently completed a Riparian/Wetland Stateside strategy that calls for interdisciplinary planning, on-the-ground improvements of wetland/riparian areas, monitoring, outreach efforts, and expanding work with partners and volunteers to restore and enhance wetland/riparian areas.

BLM is consolidating public land parcels through land exchanges and Land and Water Conservation Fund purchases in order to improve management of riparian areas along rivers such as the Sacramento, American, and Cosumnes. BLM is also involved in Challenge Cost Share programs with environmental groups, private organizations, and other government agencies. Along the Cosumnes River, BLM is working with Ducks Unlimited, The Nature Conservancy and the Central Valley Joint Venture to restore wetlands necessary to waterfowl in the Sacramento-San Joaquin Delta.

In addition, BLM is developing cooperative agreements with farmers and cattle ranchers to help protect riparian areas. For example, BLM has revised its grazing management plans to reduce overgrazing near sensitive stream and river banks and to increase monitoring. With the help of volunteers, BLM has been fencing riparian areas in order to provide appropriate livestock grazing prescriptions, rehabilitating closed roads, and restoring native plant species along river banks.

BLM takes part in the Coordinated Resource Management Planning (CRMP) process. The CRMP process is a collaborative public-private project planning and implementation process which seeks to involve all interested parties in management and restoration decisions and in project implementation. Many successful projects have been undertaken and completed at the grassroots level. CRMP projects include innovative bank restoration projects and restoration of riparian habitat. BLM is participating in bioregional planning and management efforts including the Cosumnes River Preserve and the Coachella Valley Preserve.

Bureau of Reclamation (USBR)

The Bureau of Reclamation constructs and maintains federal water development and reclamation projects including those along the Colorado River and the vast Central Valley Project (CVP). It provides water for irrigation, municipal and industrial use, hydroelectric power generation, water quality improvement, wind power, fish and wildlife enhancement, outdoor recreation, river regulation and flood control. The USBR plays a major role on the more significant river systems, and a lesser role on their tributaries. The Central Valley Project Improvement Act requires the USBR to put environmental uses of CVP water on an even footing with urban and agricultural consumptive uses, and also guarantees minimum quantities for fishery protection under specified circumstances.

The USBR controls about 1.1 million acres in California, all of which are related to completed or authorized projects. Activities include the Central Valley Project, including Shasta, Clair Engle, Whiskeytown, New Melones, Folsom, San Luis and Millerton lakes, and major canals and hydroelectric facilities; the All-American Canal system in the Imperial Valley; and the Parker, Davis, Cachuma, Klamath, Orland, San Diego, Solano, Truckee Storage, Ventura River, Santa Maria, and Washoe projects.

The USBR is signatory to the Coordinated Operating Agreement between the Central Valley Project and the State Water Project (1986), which: provides that both the CVP and SWP are subject to water quality standards and export decisions taken from SWRCB Water Rights Decision 1485; provides for CVP/SWP proportional splits of 75/25 responsibility for meeting in-basin use from stored water releases and 55/45 for capture and export of excess flow; requires a commitment of about 2.3 million acre-feet from both projects during a critical water supply period.

The CVP concept and design originated with the California state government, as part of an overall plan for water resource development for the state. Periodically, there have been initiatives to return control over CVP facilities to the state. The concerns of environmental interest groups and the questions of price and payment terms would present formidable obstacles to a transfer of jurisdiction.

The USBR's role on the Colorado River has been varied. It has provided flood control, water supply and hydroelectric power by constructing and operating multiple-use dams and diversion structures, and it has straightened, denuded and bank-armored sections of the river to facilitate flows. Significant degradation of water quality in the southern reaches of the Colorado River has resulted from agricultural water use and drainage patterns.

The USBR also funds and participates in the Interagency Ecological Study Program.

U.S. Geologic Survey (USGS)

USGS provides geologic, topographic and hydrologic information that contributes to the management of resources. USGS collects data on a routine basis to determine quantity, quality and use of surface and groundwater; conducts water resources appraisals describing the consequences of alternative plans for developing land and water resources; researches hydraulics and hydrology; and coordinates all federal water data acquisition.

U.S. Fish and Wildlife Service (USFWS)

The USFWS is the principal agency through which the federal government carries out its responsibilities to conserve, protect and enhance the nation's fish and wildlife and their habitats for the continuing benefit of the people. The agency's major responsibilities are for migratory birds, candidate species, endangered species, certain marine mammals, and freshwater and anadromous fishes.

USFWS's programs includes fish and wildlife conservation; technical assistance on wildlife management to federal, state and local agencies; migratory birds; the acquisition of areas for management and protection of migratory birds; wetlands conservation; funding for wetlands acquisition; the conservation of estuarine areas under the Estuarine Areas Act (PL 90-454); the National Wetland Inventory and insuring compliance with NEPA.

Fish and Wildlife Coordination Act (1958): The act provides a procedural framework for the consideration of fish and wildlife protection and improvement measures to be incorporated into federal and federally permitted or licensed water development projects. Pursuant to the act, the USFWS investigates and makes recommendations on water projects planned by the Corps of Engineers (Section 10 and Section 404) and licensed by the Federal Energy Regulatory Commission (hydropower projects).

Endangered Species Act (1973): The purposes of the Endangered Species Act are to conserve threatened and endangered species and the ecosystems upon which they depend, and to carry out programs pursuant to international treaties and conventions regarding fish, migratory birds and other wildlife.

The act provides for the establishment of lists of threatened and endangered species. Any inclusions to or deletions from the lists must come after proper notice and, if requested, public hearing. The lists are reviewed every five years to determine if any species should be removed or have its status changed. The Secretary of the Interior may also identify critical habitat and impose regulations governing those areas.

The Secretary of the Interior is also directed to establish programs for the conservation and recovery of listed species,

including the acquisition of land or other interests affecting habitat. The act directs the secretary to cooperate with state governments to implement these programs.

The Migratory Bird Conservation Act of 1929 (16 U.S.C. 715): Authorizes the USFWS to acquire lands for conservation of migratory waterfowl and the *Fish and Wildlife Act of 1956* authorizes the acquisition of lands for wildlife refuges.

The Emergency Wetland Resources Act of 1986: Authorizes the Secretary of the Interior to acquire wetlands, and the *North American Wetland Conservation Act of 1989* authorizes acquisition of wetlands to implement the North American Waterfowl Management Plan.

The North American Waterfowl Management Plan (1986): Signed by United States and Canada (endorsed by Mexico), provides a broad framework for waterfowl conservation and management in North America through the year 2000. This plan seeks to restore and maintain the diversity, distribution and abundance of waterfowl that occurred from 1970 to 1979 by solving habitat problems with a focus on seven priority habitat areas. The Central Valley, including the Sacramento-San Joaquin Delta, is one of these areas. The Central Valley Habitat Joint Venture (Joint Venture) is a group of private organizations and public agencies which have agreed to pool their resources to solve habitat problems in the Central Valley. Conservation easement and fee title acquisitions in the North Central Valley Wildlife Management Area are proposed as a major USFWS program contributing to the Joint Venture.

Funding for the Migratory Bird Conservation Act comes from the Migratory Bird Conservation Fund, derived primarily from the sale of federal duck stamps. Funding for both the Fish and Wildlife Act and the Emergency Wetland Resources Act come from the Land and Water Conservation Fund, which is from revenues derived primarily from oil and gas leasing. The North American Wetland Conservation Act authorizes appropriations as well as earmarks proceeds from migratory bird fines and accrued interest from Pittman-Robertson funds to implement the management plan.

Refuge Revenue Sharing Act (Public Law 95-469): Under provisions of this act payments are made to counties to offset tax revenue lost as a result of fee title acquisition of private property for refuge establishment.

USFWS manages the Kern National Wildlife Refuge, Klamath Basin National Wildlife Refuge, Modoc National Wildlife Refuge, Sacramento National Wildlife Refuge, Salton Sea National Wildlife Refuge, San Francisco Bay National Refuge and San Luis National Wildlife Refuge.

National Park Service (NPS)

The National Park Service (NPS) in California has jurisdiction of and manages five river segments designated under the National Wild

and Scenic Rivers System within National Park Units: the Tuolumne River including Lyell and Dana Forks (Yosemite); the Merced and the South Fork Merced rivers (Yosemite); the Middle and South Fork Kings rivers (Sequoia/Kings Canyon National Park); and the North Fork Kern River (Sequoia/Kings Canyon). In addition, other river segments potentially eligible for designation under the National Wild and Scenic Rivers Act §2(a)(ii) flow through National Parks and are managed under existing NPS laws and regulations. Research on and management of these river segments are addressed in each park's general management plan and resources management plan.

The Natural Resources and Research program of the NPS in California has considerable expertise in the management and restoration of riverine and riparian habitats. Redwood National Park is nationally recognized for its watershed restoration program mandated by the park's 1978 Redwood National Park Expansion Act. Other major management efforts currently being implemented include the restoration of natural river channels and riparian habitat of four reaches of the Merced River within Yosemite National Park, and an inventory of aquatic resources of the Middle Fork of the Kaweah River within Sequoia/Kings Canyon.

NPS acts on behalf of the Secretary of the Interior in reviewing impacts on state administered components of the National Wild and Scenic Rivers System when these segments are not under the jurisdiction of any other federal management.

From 1979-81, NPS, in cooperation with state and local agencies, organizations and the public, completed the first nationwide inventory of significant free-flowing rivers potentially eligible for the National Wild and Scenic Rivers System. The inventory established the potential eligibility of over 60 rivers in California.

The Rivers, Trails and Conservation Assistance (RTCA) program of the NPS cooperates with and assists states, local governments and citizen groups to protect and restore river corridors, to establish trail systems and to conserve open space. The goal of this outreach service is to share the expertise and experience of the NPS with groups working to protect their river and trail resources. RTCA, in partnership with the California Resources Agency, is currently undertaking a statewide rivers assessment to enhance the planning and conservation of California's river resources. The goal of the assessment is to create an informational planning and decision making tool that can be used by resource management agencies, river related organizations and decision-makers to design effective river management strategies. RTCA works through the invitation of a local or state group.

Department of Transportation

U.S. Coast Guard

The U.S. Coast Guard enforces federal fisheries laws; promotes navigation and boating safety; aids vessels in distress; and protects ports, waterways and shoreside facilities. The Coast Guard is the primary enforcement agency for ocean disposal activities and assists the Corps of Engineers in monitoring the activities of disposal barges. The Coast Guard has increasing control over spills of pollutants and requires and enforces contingency cleanup plans for accidental spills.

Other Federal Agencies

Environmental Protection Agency (EPA) (Independent Agency)

EPA was established (1970) to protect, maintain, restore and enhance environmental quality and human health through the regulation of activities that have potentially harmful effects on air, water and land resources. EPA exercises authority through the National Pollution Discharge Elimination System (NPDES), National Pretreatment Program, Ocean Dumping/Dredging and Fill, and has delegated to states the authority to certify that permitted actions are consistent with the state's water quality objectives under the Clean Water Act.

Clean Water Act: The Clean Water Act was originally enacted in 1948, but extensively amended in 1972 and 1977. The act's objective is to restore and maintain the chemical, physical and biological integrity of the nation's waters. While its administration is in the hands of the EPA, management of water pollution control generally is the responsibility of the states. Allocation of water is also expressly left to the states.

Of particular interest is Title III which provides for the establishment of water quality standards and for enforcement. Code section 1311 makes unlawful the discharge of any pollutant of any kind by any person, except in compliance with specific provisions of the act. The same section also provides for the establishment of effluent limitations within a specified time schedule. Title III also contains provisions for establishment of more stringent controls on particular point sources, state establishment of water quality control standards, establishment and publication of water quality criteria, biennial state reporting to EPA, state control of discharge sources, establishment of effluent standards and controls for toxic pollutants, and control of sewage discharges from vessels. When the EPA finds a violation of state standards it notifies the state first and, if the state

does not act, then orders the violator to comply with the standard or seeks an injunction ordering compliance.

Council on Environmental Quality (CEQ)

The CEQ was established by the National Environmental Protection Act of 1970 with the responsibility to inform and advise the president and Congress on environmental problems and issues. It is a three-member commission whose chairperson and members are nominated by the president and confirmed by the Senate. It is within the Executive Office of the president along with the National Security Council and the National Science Advisor, among others. Among its more notable accomplishments are an annual report on the state of the nation's environment and the *Global 2000 Report*, a status report on the world's environment which contributed significantly to the knowledge of environmental problems and trends.

Federal Emergency Management Agency (FEMA)

FEMA provides flood insurance to jurisdictions that meet the criteria for participation in its program. The program was initiated to encourage better flood plain management and reduce damages in flood-prone areas. To identify flood-prone areas, FEMA requires delineation of a 100-year flood plain, which is then subject to regulation. In developed or developing areas, FEMA also identifies a part of the flood plain called the "floodway" that is subject to extreme limitations on development. In general, structural developments are prohibited in the floodway. The floodway is technically defined as the portion of the flood plain which is required to convey the 100-year peak flow with no more than a one-foot increase in the computed water surface elevation. Development is generally allowed outside of the floodway, although purchase of flood insurance is generally required. The result of this regulatory system is that floodways are left undeveloped, but portions of the flood plain outside of the floodway—termed the "floodway fringe"—continue to be developed, sometimes at a rapid pace.

The State Role

Business and Transportation Agency

Department of Transportation (CALTRANS)

Caltrans' role with respect to rivers is both direct and indirect. Caltrans is responsible for the construction and operation of the state's extensive primary and secondary State Highways system. It

constructs and maintains bridges over almost every river in the state. In that capacity, Caltrans is very concerned about the effects of riverbed degradation caused by aggregate extraction operations. The lowering of riverbeds in the vicinity of highway bridges is cause for concern to Caltrans both for repair cost and public safety reasons. Bed degradation caused by aggregate operations can also lead to the erosion of engineered fills along waterways. On the other hand, Caltrans is also a major *consumer* of aggregate products. In that capacity, it may occasionally find itself in the somewhat contradictory position of advocating instream extraction as the most cost-effective means of acquiring construction materials, while at the same time expressing concern about the effects of extraction on bridges and highway fills. The resolution of those concerns often means limiting the commercial extraction to those areas far enough removed from bridges that no significant degradation is probable. The timing of extraction can also be significant, as evidenced by the particularly severe streambed degradation which has occurred on some North Coast rivers during the recent drought.

Environmental Protection Agency (Cal-EPA)

Office of the Secretary for Environmental Protection

The Office of the Secretary coordinates functions that cut across the various Cal-EPA programs designed to address pollution in specific media, e.g., air, surface water, groundwater, land disposal, and serves as the primary point of accountability for the management of environmental protection programs. The secretary chairs the Environmental Policy Council, which includes the heads of the constituent boards, departments and offices of the Cal-EPA, and the governor's Office of Planning and Research.

Air Resources Board (ARB)

ARB's mission is to control air pollution and improve air quality throughout California. Its primary responsibility is to control motor vehicle pollution and oversee the activities of 14 local air pollution districts which regulate industrial sources of air pollution.

The ARB establishes air quality standards, researches pollution problems, monitors air quality, inventories major sources of air pollution and regulates agricultural burning.

Integrated Waste Management Board (CIWMB)

The CIWMB was established in 1990 as the state's lead agency for managing solid waste in California. The board's role is to protect the public and the environment from any deleterious effects of solid waste

management by establishing regulations that meet environmental concerns and provide flexibility to local governments.

State Water Resources Control Board (SWRCB)

SWRCB is responsible for both the allocation of water rights and, through the Regional Water Quality Control Boards, for ensuring compliance with state and federal water quality laws, including the Clean Water Act and the Porter-Cologne Act.

In its capacity as permitter and regulator of appropriative water rights, the SWRCB acts as public trustee of the state's ownership interest in the water. As trustee, the agency must allocate water equitably among potential consumptive uses, while guaranteeing that instream public trust resources receive enough residual flow so that they are not impaired.

The SWRCB develops control strategies for pollution sources and management plans. Assessment reports identify categories of pollution, identify surface water bodies that would not attain water quality standards without pollution source controls, describe the development of "Best Management Practices" (BMP) for control of pollution sources, and review existing control programs.

The SWRCB is charged with establishing water quality standards for the Central Valley Project and the State Water Project. The SWRCB reviews applications for the diversion of water from the Delta or its tributaries to determine the effect of the proposal on the quantity and quality of the water, and the resultant effect on other uses of water in the system. The SWRCB recently issued and then withdrew D-1630, a draft decision proposing new interim standards for the flow and operational requirements of the Delta, in an effort to address the decline of Delta fishery and wildlife resources. Environmentalists assert the decision was flawed in several significant ways including the use of "target species"and the apparent abandonment of the goal to return the water quality standards to pre-project (SWP/CVP) standards. Others argue that the D-1630 would require too much water from agriculture uses.

The SWRCB is also chiefly responsible for implementing section 208 of the Clean Water Act, the mandate to control pollution. The SWRCB and Regional Water Quality Control boards review all proposed activities in the waterways that require federal grants, licenses or permits to determine the effect of the proposed action on water quality.

Regional Water Quality Control Boards (RWQCB)

Regional boards act as agents of the State Water Resources Control Board and the Environmental Protection Agency, issuing waste discharge permits.

Department of Toxic Substances Control (DTSC)

DTSC is responsible for locating, investigating and cataloging toxic waste sites, for identifying the responsible parties, and for supervising remediation of those sites. It is able to expend bond money, where necessary to facilitate cleanup, and to recover its costs through the court system.

Department of Pesticide Regulation (CDPR)

The department oversees pesticide registration and enforces all state and federal pesticide laws governing the agricultural, industrial, domestic or other use of pesticides in California. Under the direction and supervision of the department, the County Agricultural Commissioners carry out pesticide enforcement activities at the local level.

Resources Agency

Office of the Secretary for Resources

The secretary directs the State Resources Agency which functions as an "umbrella" agency, setting major resource policy for the state and overseeing programs of agency departments including the Departments of Water Resources and Fish and Game, and the Coastal Commission. The agency evaluates CEQA documents for consideration of existing state policy, programs and plans, and coordinates all state agency comments on applications for Corps permits.

San Francisco Bay Conservation and Development Commission (BCDC)

BCDC is authorized by the McAteer-Petris Act to analyze, plan and regulate San Francisco Bay and its shoreline. It implements the San Francisco Bay Plan and the Suisun Marsh Protection Plan, and regulates filling and dredging in the Bay, its sloughs and marshes, and certain creeks and tributaries. BCDC jurisdiction is the Bay and inland area within 100 feet of shoreline. The Bay Plan is subject to CZMA consistency review as a component of California's Coastal Plan which is administered by BCDC.

California Coastal Commission (CCC)

The California Coastal Act of 1976 (see Public Resources Code Section 30000 ff.) mandates the CCC to protect marine and coastal resources, promote coastal conservation, regulate coastal development and perform as the principal, designated coastal zone management agency under federal law. The CCC aids local planning efforts concerned with

land use and water development, public access, natural resources, offshore oil development, agriculture and other issues affecting the coastal zone. The CCC has permitting authority over certain major land use decisions along the California coast, and hears appeals regarding a broader spectrum of coastal permitting decisions that are initially made by local governments. The CCC generally has jurisdiction over the mouth or estuary areas of many rivers and streams.

Delta Protection Commission (DPC)

The Delta Protection Act of 1992 established a 19-member commission designed to protect, maintain and enhance a significant portion of the lands of the Sacramento-San Joaquin Delta for agriculture, wildlife habitat, recreation and other public trust uses. The commission is charged with developing a plan to preserve and restore Delta dependent fisheries, riparian and wetland habitat, water quality, open space and outdoor recreation opportunities, agricultural viability, public access and navigation; protect the Delta from development that results in significant loss of habitat or agricultural land; and promote strategies for voluntary cooperative arrangements between property owners and conservation groups.

Boating and Waterways (B&W)

The Department of Boating and Waterways is responsible at the state level for navigation safety, for constructing and maintaining certain boating and ancillary facilities, and for funding, through low interest loans, certain privately built and operated boating and fishing facilities. B&W has a small staff devoted to studies of coastal sand supply and transport which is, in turn, related to the management of inland stream systems.

State Conservancies

Several conservancies that have river related obligations operate under the aegis of the Resources Agency. These agencies facilitate public and private initiatives to preserve, rehabilitate and protect natural systems through programs of land acquisition and grants. The Coastal Conservancy, the Tahoe Conservancy, the Santa Monica Mountains Conservancy and the newly created San Joaquin River Conservancy are examples.

Colorado River Board of California

The Colorado River Board was established in 1937, Water Code Sections *12500, et seq.*, to protect the interests and rights of California, its agencies and citizens in the water and power resources

of the Colorado River System. The chairperson, who serves ex officio as the Colorado River Commissioner of California, represents the state on various interstate and federal-state bodies concerned with the river basin. The board reviews and evaluates water requirements and supplies.

Department of Conservation (DOC)

DOC's programs include mining and geology, recycling, land resources protection, and oil and gas. It issues oil, gas and geothermal well permits.

DOC's programs address soil conservation, particularly as it relates to land use. The DOC administers the Williamson Act on agricultural lands and maintains a task force to evaluate the progress of the Act. DOC's Office of Land Conservation administers the Farmland Mapping and Monitoring Program which provides information updates on conversion of these lands to other uses every two years.

DOC oversees the administration by local agencies of the Surface Mining and Reclamation Act (SMARA) which requires reclamation of mined lands to alternate uses such as range and forage. In this latter capacity, DOC plays an important role in ensuring that local governments comply with those provisions of SMARA which are designed in part to guard the health of riparian and aquatic systems. DOC also contracts with the Department of Forestry and Fire Protection to map highly erosive watersheds that may be affected by timber harvesting.

Department of Fish and Game (DFG)

DFG has jurisdiction over, and responsibility for, resident and anadromous fish resources in all rivers and streams of the state, and also for wildlife resources which use adjacent riparian habitat. DFG conducts wide-ranging programs including research on fish and wildlife propagation, habitat requirements, fishing and hunting licensing, hatchery management, fish planting, stream alteration permitting, natural heritage database management and related programs. It is responsible for the administration of the provisions of the state Endangered Species Act, and for operating the California Natural Diversity Database. DFG Stream or Lake Alteration Agreements are required for activities that result in changes to natural conditions in streams, lakes channels or crossings.

DFG conducts an aggressive and wide-ranging stream and watershed planning and restoration program to maintain and rehabilitate aquatic and riparian habitats. The program stresses public participation and interagency cooperation. Approximately 1,500 projects have been completed over the past 10 years.

DFG acts as trustee, on behalf of the state, of California's fish

and wildlife resources, and is governed by the principles of the public trust with respect to them. As trustee, DFG plays an active role in all those management activities of other agencies and individuals which may affect the resources within its jurisdiction.

Inland Fisheries Division: Established to protect, maintain and enhance populations and habitats of resident inland fish, amphibians, reptiles, invertebrates and anadromous fish. The division conducts a hatchery program for the production and planting of some 60 million fish each year, carries out habitat restoration projects, and conducts surveys and research.

Natural Heritage Division: Focuses on the protection, management, restoration and recovery of endangered and rare plants and animals.

Wildlife Conservation Board (WCB)

This board acquires land, develops recreation facilities and public access to natural sites, and investigates areas to determine suitability for wildlife production, preservation and recreation. The WCB works closely with the Department of Fish and Game to coordinate spending Water, Parks and Wildlife Bond (Prop. 70) money.

California Fish and Game Commission

The California Fish and Game Commission, with advice from the Department of Fish and Game, sets ocean fishing regulations within the three-mile zone of state waters, consistent with fishery plans developed by the Pacific Fishery Management Council. The Commission also regulates inland fishing, except for Indian fishing within a reservation, which is controlled by the U.S. Bureau of Indian Affairs.

Department of Parks and Recreation (DPR)

The Department of Parks and Recreation's mission is to provide for the health, inspiration and education of the people of California by acquiring and protecting the state's most valued natural and cultural resources and by providing opportunities for high quality recreational experience. The department has an important role in the management of the state's rivers because many river corridors with ecological values of statewide significance are within existing State Park units and can provide important public recreational opportunities.

DPR manages over 250 State Park System units encompassing over 1.5 million acres. Many of these units include significant portions of important rivers and streams. Resource management by the department includes native plant reintroduction, exotic plant removal, prescribed fire management and restoration of stream channels, banks and associated riparian vegetation.

DPR is responsible for the disbursement of state bond funds and federal Land and Water Conservation Funds and other grants to local government park and recreation agencies which contribute to the resource management of rivers and streams.

Department of Water Resources (DWR)

DWR is responsible for formulating coordinated statewide plans for the control, conservation, protection, enhancement and use of state water resources. DWR's mission is to evaluate current and projected needs for water and development programs; to direct the use of the resource; to protect the public through water quality improvement, flood control and dam safety programs; and to assist local water agencies with funds, expertise and technical support to improve their water delivery systems. DWR issues permits for activities involving dams or reservoirs.

DWR is responsible for maintaining specified portions of the Sacramento River Flood Control Project, which includes the ". . . channels and overflow channels of the Sacramento River and its tributaries. . . ."

DWR is responsible for constructing and operating the State Water Project which delivers water to 30 agencies throughout the state. DWR coordinates the operation of the SWP with the U.S. Bureau of Reclamation's operation of the federal Central Valley Project and other projects to meet legal requirements for water quality standards.

DWR is a bulk electrical utility, producing, selling, purchasing and exchanging energy to meet the project's needs. Principal energy sources are hydroelectric, coal and geothermal, and exchanges and sales with other utilities.

The Division of Flood Management is responsible for the statewide flood protection, the assessment of department's flood control needs with consideration to flood plain management, and the more traditional structural works.

State Reclamation Board (Rec. Board)

Staffed by DWR, this board exercises responsibilities for flood management on the Sacramento and San Joaquin rivers and their tributaries, and participates with the federal government in the planning, design, construction, operation and maintenance of federally authorized flood control projects. The board may designate floodways in order to control encroachments and thus preserve the flow regimes of the floodways.

The board subsidizes the maintenance of local reclamation and local flood control district levees in the Sacramento-San Joaquin Delta through the Delta Subvention Program (SB 34). The board

regulates encroachments into the Sacramento and San Joaquin flood control projects.

Energy Commission (EC)

Established by the Warren-Alquist State Energy Resources Conservation and Development Act of 1974 to address the energy challenges facing the state, the commission is the state's principal energy planning organization. It has five major areas of responsibility: forecasting future statewide electricity needs; licensing power plants sufficient to meet those needs; promoting energy conservation; developing renewable energy resources and alternative energy generating technologies; and planning for and directing state response to energy emergencies. The EC ensures that needed energy facilities are sited in an expeditious and environmentally acceptable manner.

California Department of Forestry and Fire Protection (CDF)

CDF has jurisdiction to review and approve timber harvest plans (THPs) prepared in connection with logging proposed on both the State and privately-owned lands. Preparation of THPs and subsequent enforcement of the terms of an approved THP can have a dramatic impact on overall watershed management, both in the immediate vicinity of a cut and far downstream. Watershed, riparian habitat and fisheries protection are important elements to be considered in the preparation of each THP.

Health and Welfare Agency

Department of Health Services (DHS)

DHS finds and prevents pollution of public water supplies and promotes other environmental health issues.

Governor's Office

State Historic Preservation Office (SHPO)

The National Historic Preservation Act (NHPA) 1966 established the National Register of Historic Places, Advisory Councils on Historic Preservation, State Historic Preservation Offices and Grants-in-Aid programs. Section 106 requires that all federal agencies consult with the Advisory Council prior to undertaking any action that would affect a property on or eligible for the National Register. It established regulations that encourage coordination of agency cultural resource compliance.

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites and objects have not been properly protected under other statutes. It establishes as national policy that such traditional practices and beliefs, sites, including right of access, and the use of sacred objects, shall be protected and preserved.

The intent of the Archaeological Resources Protection Act (ARP) of 1979 is to enhance the preservation and protection of archaeological resources on public and Indian lands. Its primary emphasis is on a federal permitting process to control the disturbance and investigation of archaeological sites on these lands. Many of these sites are in riparian areas.

Office of Planning and Research (OPR)

OPR has no regulatory authority, but has substantial influence in guiding administration environmental and planning policy and in providing guidance to local governments. This includes the formulation of a statewide growth management strategy. OPR administers the State Clearing House for CEQA documents and is responsible for preparing planning reports to the governor.

The California Environmental Quality Act (CEQA) (1970), patterned after federal environmental legislation (NEPA), sets the state's basic charter for protecting the environment. Its policies include preventing the elimination of fish and wildlife populations. The Sacramento-San Joaquin Delta is listed as having regional and statewide significance; wetlands and riparian lands are also defined as significant. Environmental impacts must be mitigated to a level of insignificance (or a Statement of Overriding Considerations adopted) and there must be a mitigation monitoring plan to ensure effective mitigation measures.

Office of Emergency Services (OES)

OES assists local governments in preparing for and responding to disasters, such as flooding.

Local Government

Decisions by local governments, may have a profound impact on the health of river systems which pass through county jurisdiction. In addition to their normal planning responsibilities, local governments are delegated lead agency responsibility for ensuring that aggregate producers comply with the Surface Mining and Reclamation Act (SMARA) (Public Resources Code Section 2710, et seq.) That responsibility includes the permitting process itself, and follow up on approved reclamation plans. Since instream and/or

near-stream aggregate mining can have such significant impacts on the character of both upstream and downstream reaches of a stream system (see Chapters 2 and 4) the local role may be pivotal for the continued well-being of the system as a whole. Local government bodies which play a particular role in the SMARA process may include city and county planning commissions and elected governing boards or councils.

Other local government bodies which play a role in stream management are flood control districts, parks departments, water districts, community service districts, resource conservation districts and, in some cases, special districts or commissions set up specifically for stream management. The City of Redding, for example, has a Sacramento River Commission which advises the city on river corridor management issues.

Local Jurisdictional Planning Authority

Local governments (counties and cities) are required (Government Code, Section 65000 et seq.) to have a general plan with mandated elements including open space/conservation, safety, land use and circulation. There are very few regional requirements for plan consistency between the counties and cities.

The general plan land use element delineates the general distribution, location and extent of local development patterns and land use.

The conservation element addresses the "conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers, and other waters, harbors, fisheries, wildlife, minerals, and other natural resources."

The open space element defines provisions for open space, for the preservation of natural resources, the management of resources, outdoor recreation, and public health and safety.

Zoning Ordinances

State law requires that the adopted zoning ordinance and map must be consistent with the general plan. In general, there has not been a mechanism to assure consistency between or among general plans at the regional level. For example, until the enactment of the Delta Protection Act (Public Resources Code Section 29700 et seq.), there were no comprehensive local governmental zoning tools in the Delta area that could be applied effectively against the alteration of significant resource areas. The Delta Protection Act was designed to remedy that situation.

Subdivision Ordinance Controls

The Subdivision Map Act (Section 64478 et seq.) requires that a subdivision map be reviewed and approved by the appropriate local

government for all projects creating five or more parcels of land or condominiums. Maps may be denied if a finding is made that the subdivision and proposed improvements are likely to cause substantial environmental damage. In general, local governments must incorporate adequate criteria or habitat descriptions into their subdivision ordinances to implement the state law. The act (Section 66478.1) requires that reasonable public access to rivers be provided as part of the subdivision process.

Local Agency Formation Commission (LAFCO)

LAFCOs coordinate and approve changes in local government boundaries by authority of the Knox-Cortese Act; LAFCOs have authority over all cities and special districts requesting changes in geographic or public service boundaries, and establish "spheres of influence" for cities and districts. Government Code Section 56108 provides that no tidelands or submerged lands which are owned by the state or by its grantees may be incorporated into, or annexed to, a city without the approval of the State Lands Commission.

Special Districts

Resource Conservation Districts are authorized by Division 9 of the California Public Resources Code to assist the state in conserving soil and water resources on farm, range, urban and timber lands. The districts provide assistance to landowners and government agencies to prevent soil erosion, control runoff, stabilize soils and protect water quality. Districts receive technical assistance from the USDA Soil Conservation Service. Each district prepares a long-range plan for lands within its boundaries.

Open Space and Park Districts acquire and preserve open space lands, and manage wildlife, recreation and stock animals.

Reclamation Districts were the first special districts established by law. There are 108 reclamation districts which are responsible for levee maintenance. These special districts are formed and supported by the landowners of the area protected by the levees. Except for the maintenance of Corps project and direct agreement levees, they are subject to limited state and federal flood maintenance and environmental requirements and virtually no local planning regulations. However, in many cases Reclamation District projects are subject to the jurisdiction of the State Lands Commission. When state subsidy funds are used, or if construction activities on private levees require a permit from the Corps of Engineers or the State Lands Commission, environmental conditions can be imposed.

Utilities

Public utilities have developed both domestic water supply and power generation facilities on most major California watersheds. Pipelines often are operated by utilities. Insofar as river management is affected, it probably makes little difference whether the utility in question is public or privately owned and operated. Because privately held utilities are regulated by the Public Utilities Commission, they tend collectively to act somewhat like quasi-public agencies.

In Southern California, the activities of the giant Los Angeles Department of Water and Power (DWP) in the Mono Lake area and in the Owens Valley are well documented. Other major utilities with active operations in the area include Southern California Edison, the San Diego Gas and Electric Company, and the Metropolitan Water District of Southern California (MWD).

In Northern California, the collective impact of utility operations on rivers and streams is even more far-reaching. The Sacramento Municipal Utility District (SMUD) constructed and operates several dams and associated power generation facilities on the American River system. The East Bay Municipal Utilities District (EBMUD) operates facilities on the Mokelumne River watershed and also has access to American River water above Sacramento. The City and County of San Francisco divert Tuolumne River water at Hetch Hetchy Reservoir near Yosemite. For sheer numbers of facilities, the Pacific Gas and Electric Company (PG&E) is the unquestioned leader. PG&E operates 19 power plants on the Feather and the Pit/McCloud river systems, for example.

Irrigation Districts

Local and regional irrigation districts (often called simply "water districts") construct, operate and maintain diversion and drainage works to support agricultural use of water. Typically, such districts buy water from a wholesaler such as the CVP or the SWP, but some districts also possess riparian rights to divert significant quantities of water. In either case, the diversions themselves are subject to the permitting requirements of the SWRCB. Since agriculture is the single largest user of water resources in California, the operating procedures and facilities utilized to supply that water can be expected to, and do, dramatically affect the quality of instream and riparian resources. Fisheries, in particular, are sensitive to agricultural diversion practices. The drainage of runoff water from agricultural use may also play a significant role in fisheries and wildlife management within river systems.

Sanitation Districts

Local and regional sanitation districts treat and dispose of industrial and domestic sewage, most often by discharge into local

rivers and streams. Many districts are now capable of tertiary treatment, although many others are only capable of secondary treatment.

Flood Control Districts

Flood control districts are responsible for developing facilities for the conveyance, containment, storage and distribution of flood flows, so that domestic and agricultural lands are not unnecessarily flooded. Flood management facilities may consist of modified natural channels, lined channels, dams, catch basins, diversion and energy dissipation structures, bypass, detention and storage facilities, and similar engineered flood responses. Degradation of aquatic and riparian habitats typically results when natural channels are managed primarily for flood control. The presence of flood control structures often regulates water flows to the detriment of downstream channels.

Private Organizations

American River Coalition

The American River Coalition came together in 1989 as a group of 27 different recreation, business and environmental organizations all dedicated to preserving the American River. Coalition efforts center around attaining river protection designations such as federal Wild and Scenic and National Recreation Area status, as well as full-time efforts to prevent the Auburn Dam and help resolve flood control issues for the Sacramento area. The coalition is a Friends of the River-funded project.

California Salmon, Steelhead and Trout Restoration Federation (CSSTRF)

The CSSTRF holds an annual California salmon, steelhead and trout conference in different areas of the state with significant salmonid fisheries. The conferences typically focus on restoration problems of special concern in the area where the conference is held, such as gravel extraction and timber harvest for the North Coast. The federation also provides educational, referral and liaison services to the organizations, businesses and individuals actively engaged in restoring the state's salmonid populations. Beginning in the summer of 1993, the federation will be operating a fish restoration technical school in Quincy (Plumas County) that is open to the public.

California Trout, Inc. (CalTrout)

Since its formation in the 1960s, CalTrout has worked to preserve, protect and restore wild trout, native steelhead and their

waters in California. CalTrout led the efforts in 1969 to block the proposed construction of Dos Rios Dam on the Middle Fork of the Eel River. CalTrout also played a major role in the passage of the California Wild and Scenic Rivers Act of 1972, and was instrumental in getting the North Coast Rivers (and the American River) enrolled on the federal Wild and Scenic list in the final hours of the Carter Administration.

CalTrout devotes the majority of its energies to the protection of rivers, streams and riparian habitats through administrative proceedings (SWRCB, FERC, etc.), litigation (*CalTrout v. SWRCB* [real party in interest, Los Angeles Dept. of Water and Power]), legislation, follow up with responsible agencies and hands-on restoration (for example, Yellow Creek in Plumas County).

Central Sierra Watershed Coalition

The coalition's purposes are to preserve the integrity of the watershed, advocate stewardship of the ecosystem and present alternate value analysis of sustainable low-impact recreation use. The coalition covers the geographic range from Merced to Mokelumne. Its goals are to assist local, state and federal agencies in developing alternative operations for the New Melones reservoir which would provide additional Stanislaus River flows for downstream and Delta fisheries, while restoring riparian vegetation and providing for white water recreation upstream. Coalition objectives include coordinating with Central Valley Project and state water political movements including water banking and "fair share" negotiations, restoring the main stem Stanislaus as a river of national significance and stopping the Clavey River Project.

Committee to Save the Mokelumne River

The committee has been a leading proponent of providing higher instream flows in the lower Mokelumne River downstream of existing water supply dams and diversions in order to restore the river's anadromous fisheries and mitigate pollution problems.

Desert Fishes Council

Organized in 1969, the Desert Fishes Council is an interdisciplinary group of more than 500 university research scientists and agency resource managers concerned with maintaining the biological integrity of desert aquatic ecosystems and their related floras and faunas. The council is involved with problems relating to the Colorado River and other desert streams.

Ducks Unlimited, Inc.

Ducks Unlimited works to protect and enhance North American wetland ecosystems with special emphasis on those habitats of greatest value to waterfowl; it has projects affecting nearly 500,000 acres in all 50 states.

Friends of the Garcia (FrOG)

The Garcia is a relatively short river in Mendocino County which has been affected by past timber harvest, ranching and aggregate extraction practices. As a result, the local fishery has been severely degraded. FrOG is working with a local resource conservation district to promote voluntary rehabilitation programs to restore the stream to its former productivity, and to promote public access while protecting the rights of private property owners.

Friends of the Los Angeles River

Friends of the Los Angeles River is working to restore riparian habitat and establish parkways along portions of the Los Angles River.

Friends of the River

Organized in 1972 to save the Stanislaus River, Friends of the River expanded to become the largest statewide river conservation organization in the nation, with more than 10,000 members dedicated to the preservation and restoration of free-flowing rivers, streams and watersheds. Current conservation programs include encouraging Wild & Scenic designation of free-flowing rivers, stopping needless and destructive dam projects while developing environmentally benign flood control, water supply and energy alternatives, and providing individual activists and watershed organizations the necessary training and skills to be effective river advocates.

Friends of the Santa Margarita River

Friends of the Santa Margarita River is working with a number of local, state and federal agencies to develop a cooperative management plan to preserve the outstanding scenic, wildlife and ecological values of the Santa Margarita River.

Keep the Sespe Wild Committee

Keep the Sespe Wild was formed to preserve, rehabilitate and protect one of the last relatively undeveloped watersheds in southern California. The Sespe has supported an anadromous fish population,

and a major goal of Keep the Sespe Wild is the rehabilitation and preservation of that resource.

Klamath Forest Alliance

The alliance works to protect streamside riparian areas and to restrict logging in Klamath River watersheds and tributaries deemed critical for anadromous fisheries. The alliance is also organizing cooperative federal efforts to maintain optimum flows in the river for several endangered fish species.

Mattole Restoration Council

The Mattole Restoration Council is a community-based non-profit organization working to retain and restore natural systems within the Mattole River watershed to historic levels of health and productivity, especially in regard to forests, fisheries, soils, and native plant and animal communities. The council is made up of individual landowners and residents, as well as over a dozen smaller organizations in the watershed formed for specific purposes, such as the restoration of a particular tributary, community education, land trusts and salmon restoration.

Mattole Watershed Alliance

The Mattole Watershed Alliance was formed to address Mattole River watershed concerns through communication, education and cooperation. The alliance includes representation from all user groups, including ranchers, timber companies, large and small landowners, fishers and environmental restoration groups. One of their first projects was the adoption of new, more protective, sport fishing regulations by the Fish and Game Commission.

The Nature Conservancy

The Nature Conservancy has established several preserves which are centered around or include riparian habitat within California. The conservancy is a private, nonprofit conservation organization whose resources are entirely devoted to the acquisition and management of ecologically significant land, including:

Cosumnes River Preserve

The Cosumnes Preserve is located in Sacramento County on the eastern edge of the Sacramento-San Joaquin Delta between Highway 99 and Interstate 5. The nearest town is Walnut Grove. The preserve is jointly owned by the conservancy, the Department of Fish and Game, the Bureau of Land Management and Ducks Unlimited.

The conservancy, in partnership with Ducks Unlimited, Inc., has launched an ambitious management and restoration project in the preserve, one of the first of its kind between the two conservation organizations. The conservancy is restoring the riparian forests and Ducks Unlimited is restoring the wetlands.

Kern River Preserve

The Nature Conservancy started the Kern River Preserve in 1980 to protect plants, animals and natural communities which rely on this habitat for survival. The preserve is located along the South Fork Kern River, 60 miles northeast of Bakersfield along State Highway 178 near Weldon. There are 1,133 acres of riparian forest currently in the preserve. The preserve contains the largest continuous stand of riparian forest habitat in the state and 25 percent of the total Great Valley Cottonwood Riparian Forest found in California. Over 245 acres of the preserve are under restoration to reestablish a defined, native, historic ecosystem. The goal of this process is to replicate the structure, function, diversity and dynamism of that particular ecosystem.

The Sacramento River Project

The Sacramento River Project is perhaps the most geographically extensive undertaking by any conservation organization. The project encompasses 100 miles of river between Red Bluff and Colusa, and seeks to protect 50,000 acres of riparian forest and associated wetlands through the acquisition of fee-title and conservation easements. The Sacramento River National Wildlife Refuge, managed by the U.S. Fish & Wildlife Service, will be the main result of the project. The USFWS, the Wildlife Conservation Board (DFG) and the State Reclamation Board are acquiring riparian lands. The Nature Conservancy manages the forest on about 14,000 acres in scattered blocks of habitat. An equal acreage of flood-prone agricultural lands will be restored to riparian forest, with the goal of expanding existing forested blocks and connecting them with habitat corridors. Agricultural lease revenues will fund the habitat restoration. Restoration technologies are currently being developed in concert with local farmers and private land owners.

Putah Creek Council

The council is working with the U.S. Fish and Wildlife Service and the University of California, Davis to develop a management plan and to restore riparian vegetation along Putah Creek. In addition, the council is working to increase stream flows from Monticello Dam.

Sacramento River Preservation Trust

Organized to stop destructive bank protection projects along the Sacramento River, the trust has been instrumental in focusing the efforts of state and federal agencies on the acquisition of riparian habitat along the river. The trust also supports the recovery of the river's many endangered species, including the winter-run chinook salmon.

San Joaquin River Committee

The San Joaquin River Committee is working to establish the San Joaquin River Parkway along the river, oppose unwise development in the flood plain and restore riparian habitat along the river.

San Joaquin River Parkway and Conservation Trust (SJRPCT)

The SJRPCT is a nonprofit public benefit corporation, organized for charitable and educational purposes. The trust's mission is to preserve and restore San Joaquin River lands of ecological, scenic or historic significance, to educate the public on the need for stewardship, to research issues affecting the river, and to promote educational and recreational uses of the river bottom consistent with protection of its environment.

Save the American River Association (SARA)

Save the American River Association is a citizen-volunteer group which advocates protection of the natural resources and recreational opportunities of the American River. Organized initially to combat development of subdivisions along the American River Parkway, in recent years SARA has been involved in issues dealing with American River water supply allocation, including instream uses and flood control.

Sierra Club

The Sierra Club has been very active, primarily through the grass-roots efforts of its local chapters, in monitoring issues which affect rivers and streams. The club actively promotes conservation activities, and takes a particular interest in the environmental effects of activities such as gravel extraction on natural systems. The Sierra Club is by far the largest environmental organization in the state. It was founded in 1892 by John Muir.

South Yuba River Citizens League (SYRCL)

SYRCL was originally formed in 1983 to oppose proposed hydroelectric projects on the South Yuba River. Since that time, while continuing its fight against hydro proposals, the organization has expanded its activities to include leasing land to hold for future park acquisition, monitoring the activities of the Yuba County Water Agency and promoting Wild and Scenic River designation for the river.

Tuolumne River Preservation Trust

The trust was formed in 1981 to protect the Tuolumne River from a proposed dam at Wards Ferry on the Clavey River. Through bi-partisan efforts the river was designated Wild and Scenic by Congress, thus averting the development of the dam. Currently, the organization is interested in watershed resource management practices for the river and its tributaries. Efforts are focused on maintaining the Clavey River in its free-flowing state in the face of proposed development of a hydroelectric dam. The organization uses education, legal and political means to achieve its goals.

United Anglers of California

United Anglers of California is the state's largest fishery conservation organization working to restore and protect California's fisheries and their habitat. The organization's membership includes anglers, sport fishers and affiliated fishing groups. It works with agencies and elected bodies to attain sound fishery management and to obtain funding to support such management. A tax deductible subsidiary foundation, the Fishery Foundation of California, seeks funding for and conducts projects to enhance fishery production and restore fishery habitat. Projects range from the restoration of several watersheds in the Eel River drainage to the creation of habitat for warm water fisheries in reservoirs. The foundation is pen rearing wild striped bass in the Delta and growing artificially produced white sea bass in pens along the Southern California Coast.

Urban Creeks Council

The council is a California nonprofit group formed to encourage the protection, preservation, and restoration of urban creeks. The council advocates land use planning to preserve creeks and decrease potential flood damage from creeks; promotes alternative flood control designs and alternative streambank stabilization techniques; provides assistance to grassroots neighborhood and community groups; conducts special projects; holds meetings, workshops and

conferences to promote the aesthetic, ecological and recreational value of urban creeks; and develops educational materials.

Regional Initiatives

The past decade has brought an increasing awareness at all levels of government and in the public of the signal importance of riparian systems to the overall health and welfare of the environment. Many significant regional initiatives have arisen, sometimes through the actions of government, but quite often at the instigation of private interest groups concerned with the continued well-being of areas which they have historically used for recreational and aesthetic refuge. These efforts are widely varied in goals, available resources, and ultimate potential for success.

Blue Bird Mine Riparian Rehabilitation and Enhancement Project

This $32,300 initiative of the Shasta-Trinity National Forest will result in the restoration and enhancement of a closed mine which was not fully reclaimed. Activities will include an ecological inventory of the proposed project area, soil and ground cover enhancement measures, and enhancement of various anadromous fish and wildlife habitat characteristics of the area. Work will be accomplished through existing cooperative agreements between BLM, USFS and the multi-agency Trinity River Restoration Program. Portions of the work will be completed by local interest groups such as the Garden Club, Trinity County Mining Alliance, California Native Plant Society, Burnt Ranch 4-H Club and elementary school students.

Klamath River Fishery Restoration Program

This program is guided by the Klamath Fishery Task Force, which in 1991 consisted of representatives of the California commercial salmon fishing industry, the in river sport fishing community, the California Department of Fish and Game, the Hoopa Valley Tribe, the Department of the Interior, the National Marine Fisheries Service, the Department of Agriculture, the Oregon Department of Fish & Wildlife, Del Norte, Siskiyou, Humboldt and Trinity counties, the Karuk Tribe and the Yurok Tribe. Projects are primarily funded through the Klamath Basin Fisheries Resources Restoration Act (P.L. 99-552), with matching nonfederal contributions. The principal objective is the restoration of the once-great fishery resources of the basin through habitat protection, management and restoration, fish population protection and restoration, education and communication, and program administration.

Napa River Coordinated Resource Management and Planning Process (CRMP)

The Napa River CRMP is a joint effort of the San Francisco Bay Region (Region 11) Water Quality Control Board and the Napa County Resource Conservation District (NCRCD). The plan will recommend a series of cooperative land management strategies to maintain a healthy, sustainable watershed. Preliminary planning work is being funded by a grant from the State Water Resources Control Board.

Sacramento River Greenway

The Greenway Plan was initiated in 1990 by the State Lands Commission through a Memorandum of Understanding. A Cooperative Management Agreement (CMA) with the counties of Sacramento and Yolo and the City of Sacramento and the City of West Sacramento has been adopted (1993). A Greenway is proposed for a 31-mile corridor along both sides of the Sacramento River from the Sacramento/Sutter county line south through the cities of Sacramento and West Sacramento to Freeport. The goals of the plan are to accommodate public access and enhance riparian vegetation.

Salinas River Basin Water Resource Management Plan

The Salinas River Basin Water Resource Management Plan study is composed of a series of related elements designed to improve and protect water supplies for public and agricultural use in Monterey County. It includes development of a Basin Management Plan, which in turn includes development of a complete database and comprehensive plans for watershed, river channel, reservoir and groundwater management including saltwater intrusion issues. The program utilizes the expertise of both public and private sources, and is designed to foster public participation in the decision-making process.

Salinas River Coordinated Resource Management and Planning Process (CRMP)

In San Luis Obispo County local citizens, aided by staff from the county government and the Rivers and Trails Conservation Assistance Program of the National Park Service, have initiated a planning and problem-solving program for the upper Salinas River. Issues being addressed include trespass, access, water supply and water quality.

San Joaquin River Management Program Advisory Council (SJRAC)

The council is charged by the legislature (AB3603, Costa, Water Code §12260) to develop the San Joaquin River Management Program, as prescribed, to identify actions which can be taken to benefit legitimate uses of the San Joaquin River system. The program objectives are to develop compatible solutions to water supply, water quality, flood protection, fisheries, wildlife habitat and recreation needs. The study area covers the river from Friant Dam downstream through the Sough Delta Water Agency. DWR acts as staff to the council whose members represent federal, state and local agencies and nongovernmental organizations.

Trinity River Basin Fish and Wildlife Restoration Program

This project of the U.S. Fish and Wildlife Service will, when fully implemented, result in the construction of anadromous fish habitat improvement measures in a 40-mile section of the Trinity River. Already completed pilot projects in this ten-year program (1986-1996)—including gravel placement, pool dredging, and the construction of side-channels and bank feathering site—have provided information sufficient to prepare an overall plan for the approximately 40 miles of river from Lewiston Dam to the North Fork of the Trinity River. The overall project is funded for $57 million.

Important Statutes

Federal

Watershed Protection and Flood Protection Act, 16 USCA § 1001, et seq.
Rivers and Harbors Act of 1899, 33 USCA § 401, et seq.
Clean Water Act, 33 USCA § 1251, et seq.
Bridges Over Navigable Waters, 33 USCA § 491, et seq.
River and Harbor Improvements Act, 33 USCA § 540, et seq.
Flood Control Act, 33 USCA § 701, et seq.
Wild and Scenic Rivers Act, 16 USCA § 1271, et seq.
Water Resources Development Act 33 USCA § 2201, et seq.
Endangered Species Act, 16 USCA § 1531, et seq.
Fishery Conservation Act, 16 USCA § 1801, et seq.
Soil and Water Resources Conservation Act, 16 USCA § 2001, et seq.
Small Hydroelectric Powerplant Projects Act, 16 USCA § 2701, et seq.
Fish and Wildlife Conservation Act, 16 USCA § 2901, et seq.
Toxic Substances Control Act, 15 USCA § 2601, et seq.
National Environmental Policy Act of 1969, 42 USCA § 4321, et seq.
Central Valley Project Improvement Act, 102 P.L. 575, 106 Stat. 4600

State

Porter-Cologne Water Quality Act, Water Code § 13000, et seq.
Hazardous Waste Control Law, Health and Safety Code § 25100, et seq.
Safe Drinking Water and Toxic Enforcement Act, Health and Safety Code § 25249.5, et seq.
California Environmental Quality Act, Public Resources Code § 21000, et seq.
California Endangered Species Act of 1973, Fish & Game Code § 2050, et seq.
Native Species Conservation and Enhancement Act of 1974, Fish & Game Code § 1750, et seq.
Wetlands Preservation Act of 1976, Pub. Res. Code § 5810, et seq.
Fish & Wildlife Habitat Enhancement Act of 1984, Fish & Game Code § 2600, et seq.
Davis-Dolwig Act of 1961, Water Code § 11900, et seq.
Land Conservation (Williamson) Act of 1965, Gov. Code § 51200, et seq.
Underground Storage Tank Act, Health & Safety Code § 25280, et seq.
Petroleum Underground Storage Tank Cleanup Act, Health & Safety Code § 25299.1, et seq.
Toxic Pits Cleanup Act, Health & Safety Code § 25208, et seq.
Hazardous Materials Release Response Plans & Inventory Act, Health & Safety Code § 25500, et seq.
Levee Maintenance Fund Act of 1973, Water Code § 12980, et seq.
Subdivision Map Act of 1975, Gov. Code § 66410
Coastal Act of 1976, Pub. Res. Code § 30000, et seq.
Salmon and Steelhead Spawning Areas, Pub. Res. Code § 6378
Surface Mining and Reclamation Act (SMARA), Pub. Res. Code § 2710, et seq.
McAteer-Petris Act, Gov. Code § 66600, et seq.
Fish and Game Code Provisions
- Fish and Wildlife Protection and Conservation, § 1600,et seq.
- Native Plant Protection, § 1900, et seq.
- Natural Communities Conservation Planning, §2080
- Water Pollution, § 5650, et seq.
- Water releases for downstream fisheries, § 5937

Important Cases

Federal

Woodruff v. North Bloomfield Mining Co., 18 F. 753 (1884)
Illinois Central Ry. v. Illinois, 146 U.S. 387 (1892)
United States v. Utah, 283 U.S. 64 (1931)
State of Alaska v. Ahtna, Inc., 891 F.2d 1401 (9th Cir. 1989)

State

People v. Gold Run Ditch and Mining Co., 66 Cal. 138 (1884)
Wright v. Seymour, 69 Cal. 122 (1886)
People v. Truckee Lumber, 116 Cal. 397 (1897)
People v. Russ, 132 Cal. 102 (1901)
Forestier v. Johnson, 164 Cal. 24 (1912)
People v. California Fish, 166 Cal. 576 (1913)
Bohn v. Albertson, 107 Cal.App.2d 738 (1951)
Marks v. Whitney, 6 Cal.3d 251 (1970)
People ex rel. Baker v. Mack, 19 Cal.App.3d 1040 (1971)
Hitchings v. Del Rio Woods, 55 Cal.App.3d 560 (1976)
People v.Sweetser, 72 Cal.App.3d 278 (1977)
People ex rel. Younger v. El Dorado Co., 96 Cal.App.3d 403 (1979)
State v. Superior Court (Lyon), 29 Cal.3d 210 (1981)
State v. Superior Court (Fogerty), 29 Cal.3d 240 (1981)
National Audubon Society v. Superior Court, 33 Cal.3d 419 (1983)
Kern River Public Access v. Bakersfield, 170 Cal.App.3d 1205 (1985)
CalTrout v. State Water Resources Control Board, 207 Cal.App.3d 585 (1989)
CalTrout v. Superior Court, 218 Cal.App.3d 187 (1990)
Bess v. County of Humboldt, 3 Cal.App.4th 1544 (1992)

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